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Abstract from corresponding Japanese family case (JP2000345170A2)

PROBLEM TO BE SOLVED: To provide an improved flexible method for producing a base oil and a middle distillate by a hydroisomerization reformation accompanying a catalytic deparaffinization treatment, by which the base oil having a greatly high quality, namely a high viscosity index (VI), excellent UV stability and a low pour point is produced from a charged hydrocarbon.

SOLUTION: This method for producing a base oil from a charged hydrocarbon comprises the following continuous processes: (a) simultaneously subjecting the charged hydrocarbon and at least a part of n-paraffins contained in the hydrocarbon to a hydroisomerization reformation, wherein the charged hydrocarbon has a sulfur content of <1,000 wt.ppm, a nitrogen content of <200 wt.ppm, a metal content of <50 wt.ppm and an oxygen content of <0.2 wt.%, and wherein the process is carried out at a specific temperature, at a specific pressure and at at a specific space velocity in the presence of hydrogen and a specific catalyst, and (b) subjecting at least a part of the effluent produced in the process (a) to a catalytic deparaffinization treatment at a specific temperature at a specific pressure and at a specific space velocity in the presence of hydrogen and a specific catalyst.

Derwent Abstract

Novelty - The method involves performing simultaneously hydrogenation and isomerization of charging material containing n-paraffin using a catalyst (I), and contact deparaffination of effluent using a second catalyst (II). Both the steps are performed at specific conditions.
Detailed Description - The method involves performing:
(a) simultaneously hydrogenation and isomerization of charging material containing n-paraffin using a catalyst (I) containing noble metals precipitated on amorphous acid support; and
(b) contact deparaffination of the effluent from step (a).
The charging material contains less than 1000 ppm of sulfur, less than 200 ppm of nitrogen, less than 50 ppm of metal and 0.2 wt.% or less of oxygen. Step (a) is performed in the presence of hydrogen at 200-500 deg. C, a pressure of 2-25 MPa and a space velocity of 0.1-10/hour. The distribution of noble metal in the first catalyst (I) is 20-100%. Step (b) is performed at 200-500 deg. C, a pressure of 1-25 MPa, a space velocity of 0.05-50/hour and in the presence of a second catalyst (II) containing molecular sieve and hydrogenation-dehydrogenation component, and 50-2000 l of hydrogen per liter of effluent.
Use - For production of base oil used as a lubricant for motor vehicles.
Advantage - The base oil has good intermediate distillate, high viscosity index, good UV stability and low pour point. The lubricant has good properties